



(19)

(11) Publication number: **2000024150**

Generated Document.

PATENT ABSTRACTS OF JAPAN(21) Application number: **10195632**(51) Intl. Cl.: **A63B 53/10**(22) Application date: **10.07.98**

(30) Priority:

(43) Date of application
publication: **25.01.00**(84) Designated contracting
states:(71) Applicant: **mitsubishi rayon co ltd**(72) Inventor: **IBUKI TSUTOMU
NOBORI HIROAKI
ATSUMI TETSUYA
TAKIGUCHI IKURO**

(74) Representative:

**(54) GOLF CLUB SHAFT
MADE OF FIBER
REINFORCED PLASTIC**

(57) Abstract:

PROBLEM TO BE SOLVED: To provide a golf club shaft made of fiber reinforced plastic which has high front end fracture strength and torsional strength, is light in weight and has the excellent durability and thread cutting strength dealing particularly with the impact off the centroid (sweat spot) of a club head.

SOLUTION: This golf club shaft is constituted by laminating fiber reinforced plastic layers of at least ≥ 2 layers of angle layers and straight layers. The torsional rigidity from the head side front end of the shaft within a range of 150 mm from the head side front end is ≥ 5 N/m² and the bending rigidity thereof is ≥ 12 N/m². In addition, the weight over the entire part of the shaft is ≤ 55 g.

COPYRIGHT: (C)2000,JPO